



BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Foundation Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Biomedical Science Pearson BTEC International Level 3 Diploma in Environmental Science Pearson BTEC International Level 3 Extended Diploma in Applied Science Pearson BTEC International Level 3 Extended Diploma in Biomedical Science Pearson BTEC International Level 3 Extended Diploma in Environmental Science
Unit number and title	Unit 4: Investigative Project Skills
Learning aim(s)	A: Undertake a literature search and review to produce an investigative project proposal
Assignment title	Literature search and review
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	As a Scientist working in manufacturing, research or services you need to be very familiar with general project management skills and investigative project skills. In negotiation with your Supervisor, you are asked to identify and undertake a Science investigative project that will support the work of your 'employer'. The project will be made up of all or a number of the steps involved in the 'Scientific Method', which aims for measurable results based on facts through testing and analysis. An important part of your investigative project is carrying out a literature search and review. As a research scientist you need to keep up to date with information technology and have the skills to search databases and publications. It could be that other scientists have completed similar projects before, and their findings may have an influence on your project proposal. If similar projects have been published in a different country it may also mean that the published paper may need to be translated. After a literature search and review it may be decided to take the project in a completely different direction with a different hypothesis.
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Task	In your role of Research Scientist agree a title for your investigative project with your Supervisor (this is probably your assessor/tutor). You will need to produce a structured and coherent project proposal after carrying out a literature search and review the information collected. You will need to analyse data from your literature search, explaining its usefulness and
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influence. Use the outcome of your literature search to **justify** your investigative project proposal explaining reasons for your choice.

More specifically, you will need to:

- **Carry out** a literature search for your chosen scientific project, use more than one source to confirm any statements/conclusions you make. **Review** the information you have collected and note their sources. Use this information to form the basis of your proposal and include a summary of this information. **Analyse** the information you have gathered from your literature search and its relevance to your project plan. **Explain** how your literature search was useful and influences your hypothesis, variables, resources, recording, analysis, safety considerations and any potential limitations. Give a comprehensive bibliography and list of references using a standard protocol such as the Harvard system.
- **Produce and justify** a structured and coherent project proposal for a scientific investigation. Include aims, objectives, an explanation of the hypothesis, where appropriate, independent, dependent and control variables, equipment/apparatus and materials required, how data is collected, recorded and analysed and health and safety considerations including a risk analysis. Include any calibrations of instruments, accuracy of graduated apparatus and limitations of sensors/instruments. Your project proposal needs to produce sufficient data to identify trends and or patterns as qualitative evidence to carry out a statistical analysis and support your project or reject your hypothesis. Your **justification** should include your hypothesis and how you are going to test it using information from your literature search and review. Remember to identify information that has and has not been used from your literature search, and why. Your justification needs to be valid and measurable. You will need to **explain** and give coherent and logical reasons for your choice of project proposal and that you have considered more than one appropriate investigative approach that could be used to test your hypothesis.

Checklist of evidence required

A detailed report that includes:

- A literature search and review of the information collected
- An analysis of data from your literature search, explaining its usefulness and influence
- A structured and coherent project proposal for your investigation explaining reasons for your choice

Criteria covered by this task:

Unit/Criteria	To achieve the criteria, you must show that you are able to:
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reference	
A.D1	Justify the project proposal in terms of the selection of information from the literature search and decisions made to test the hypothesis.
A.M2	Produce an appropriate project proposal for scientific investigation, explaining the hypothesis, variables, resources, recording, analysis, safety and potential limitations.
A.M1	Analyse a literature search and explain its relevance in informing the project proposal.
A.P2	Produce a project proposal for a scientific investigation, to include a hypothesis, resources required and safety considerations.
A.P1	Carry out a literature search and review into the chosen scientific area of the project.
Sources of information to support you with this Assignment	All sources of information suggested are UK based. Centres are free to amend these sources these to those available in the Country of delivery where more appropriate. www.STEM.org.uk – 8 investigative projects, good practical science www.sciencebuddies.org – science projects, project guides, resources for finding and accessing scientific papers www.edu.rsc.org - all applying scientific method articles Within the copyright laws learners could search YouTube for ‘The Scientific Method’
Other assessment materials attached to this Assignment Brief	
Notes to the Assessor and technician	The practical activities suggested for this assignment are required to be safety checked by the Centre before use. Pearson Education can take no responsibility for the safety of any practical activities. Before doing any practical activity, you should always carry out your own risk assessment and refer to the necessary regulations. In particular, any local rules issued by your employer must be obeyed, regardless of what is suggested here. Centres should use Health and Safety information provided by a reputable source. In the UK such an example organization is CLEAPSS http://science.cleapss.org.uk/